

What is claimed is:

1. An imaging apparatus comprising:

a setup part for an exposure period for generating a timing signal  
5 which prescribes an exposure period of an image pick up device;

a control part for the image pickup device for controlling an  
operation of said image pick up device in synchronization with said  
timing signal of the exposure period;

a timing part for measuring an elapsed time from the timing  
10 signal of the exposure period; and

an imaging apparatus control part for controlling said image pick  
up device control part and said exposure period setup part,

wherein said timing part measures an elapsed time from the  
exposure period timing signal right before a beginning of an exposure  
15 setup operation to the beginning of the exposure setup operation by said  
exposure period setup part, and when a time from the beginning of the  
exposure setup operation calculated by the measured elapsed time to a  
generation of a next exposure period timing signal is equal or greater  
than a predetermined time, said imaging apparatus control part  
20 shortens the time till the generation of the next exposure period timing  
signal from a regular exposure period.

2. The imaging apparatus according to Claim 1, wherein said  
predetermined time is a time required for conducting the exposure setup  
25 to said image pickup device control part.

3. An imaging apparatus comprising:

an exposure period setup part for generating a timing signal which prescribes an exposure period of an image pick up device;

an image pick up device control part for controlling an operation of said image pick up device by synchronizing to the exposure period timing signal;

a timing part for measuring an elapsed time from the exposure period timing signal; and

an imaging apparatus control part for controlling said image pick up device control part and said exposure period setup part,

wherein said timing part measures an elapsed time from an exposure period timing signal right before a beginning of an exposure setup operation to a completion of the exposure setup operation, and when a time from the completion of the exposure setup operation calculated by the elapsed time measured by said timing part to a generation of a next exposure period timing signal is equal or greater than a predetermined time, said imaging apparatus control part shortens the time till the generation of the next exposure period timing signal from a regular exposure period.

4. The imaging apparatus according to Claim 1, wherein in order to shorten the time till the generation of the exposure period timing, the exposure period timing signal is generated earlier than the regular exposure period, right after the exposure setup to said image pick up device control part, and the exposure period is thereby begun.

5. An imaging method comprising the steps of:  
preparing an image apparatus including an exposure period

setup part for generating a timing signal which prescribes an exposure period of an image pick up device, an image pick up device control part for controlling the image pick up device by synchronizing to the exposure period timing signal, a timing part for measuring an elapsed time from the exposure period timing signal, and an imaging apparatus control part for controlling the image pick up device control part and said exposure period setup part;

measuring an elapsed time from the exposure period timing signal right before a beginning of an exposure setup operation to the beginning of the exposure setup operation; and

judging whether or not a time from the beginning of the exposure setup operation calculated by the measured elapsed time to a generation of a next exposure period timing signal is equal or greater than a predetermined time,

when the time till the generation of the next exposure period timing signal is judged to be equal or greater than the predetermined time by said judging step, the time till the generation of the next exposure period timing signal being shortened.

6. The imaging method according to Claim 5, wherein said predetermined time is a time required for conducting the exposure setup to said image pick up device control part.

7. An imaging method comprising the steps of:

preparing an imaging apparatus including an exposure period setup part for generating a timing signal which prescribes an exposure period of an image pick up device, an image pick up device control part

for controlling an operation of said image pick up device by synchronizing to the exposure period timing signal, a timing part for measuring an elapsed time from the exposure period timing signal, and an imaging apparatus control part for controlling the image pick up device control part and said exposure period setup part;

measuring an elapsed time from the exposure period timing signal right before a beginning of an exposure setup operation to a completion of the exposure setup operation; and

judging whether or not a time from the completion of the exposure setup operation calculated by the measured elapsed time to a generation of a next exposure period timing signal is equal or greater than a predetermined time,

when the time till the generation of the next exposure period timing signal is judged to be equal or greater than the predetermined time, the time till the generation of the next exposure period timing signal being shortened from a regular exposure period.

8. The imaging method according to claim 5, wherein in order to shorten the time till the generation of the exposure period timing, the exposure period timing signal is generated earlier than the regular exposure period, right after the exposure setup to said image pick up device control part, and the exposure period is thereby begun.

9. A control program run by a computer provided in an imaging apparatus including an exposure period setup part for generating a timing signal which prescribes an exposure period of an image pick up device, an image pick up device control part for controlling the image

pick up device by synchronizing to the exposure period timing signal, a timing part for measuring an elapsed time from the exposure period timing signal, and an imaging apparatus control part for controlling said image pick up device control part and said exposure period setup part comprising the steps of:

measuring an elapsed time from the exposure period timing signal right before a beginning of an exposure setup operation to the beginning of the exposure setup operation by said exposure period setup part;

judging whether or not a time from the beginning of the exposure setup operation calculated by the measured elapsed time to a generation of a next exposure period timing signal is equal or greater than a predetermined time; and

outputting the exposure period timing signal for beginning the exposure period earlier than a generation of a regular next exposure period timing signal when the time till the generation of the next exposure period timing signal is judged to be equal or greater than the predetermined time by said judging step.

10. The control program according to Claim 9, wherein said predetermined time is a time required for conducting the exposure setup to said image pick up device control part.

11. A control program run by a computer provided in an imaging apparatus including an exposure period setup part for generating a timing signal which prescribes an exposure period of an image pick up device, an image pick up device control part for controlling an operation

of said image pick up device by synchronizing to the exposure period timing signal, a timing part for measuring an elapsed time from the exposure period timing signal, and an imaging apparatus control part for controlling said image pick up device control part and said exposure  
5 period setup part comprising the steps of:

measuring an elapsed time from the exposure period timing signal right before a beginning of an exposure setup operation to a completion of the exposure setup operation;

judging operation whether or not a time from the completion of  
10 the exposure setup operation calculated by the measured elapsed time to a generation of a next exposure period timing signal is equal or greater than a predetermined time; and

outputting the exposure period timing signal for beginning the exposure period earlier than a generation of a regular next exposure  
15 period timing signal when the time till the generation of the next exposure period timing signal is judged to be equal or greater than the predetermined time by said judging step.

12. The control program according to Claim 9, wherein in order to  
20 shorten the time till the generation of the exposure period timing, the exposure period timing signal is generated earlier than a regular exposure period, right after the exposure setup to said image pick up device control part, and the exposure period is thereby begun.

25 13. A recording medium which is readable by the computer recorded the control program described in Claim 9.

14. An imaging apparatus comprising:

an exposure period setup part for generating a timing signal  
which prescribes an exposure period of an image pick up device;

an image pick up device control part for controlling an operation  
5 of said image pick up device by synchronizing to the exposure period  
timing signal;

a timing part for measuring an elapsed time from the exposure  
period timing signal; and

an imaging apparatus control part for controlling said image pick  
10 up control part and said exposure period setup part,

wherein said timing part measures an elapsed time from an  
exposure period timing signal right before an input requesting an  
exposure setup event to the input requesting the exposure setup event,  
and said imaging apparatus control part conducts the setup for the  
15 exposure to said image pick up device control part after a next exposure  
period timing signal when a time from the input requesting the exposure  
setup event calculated by the measured elapsed time to a generation of a  
next exposure period timing is equal or less than a predetermined time.

20 15. The imaging apparatus according to Claim 14, wherein said  
predetermined time is a time required for conducting the setup for the  
exposure to said image pick up control part.

16. An imaging apparatus comprising:

25 an exposure period setup part for generating a timing signal  
which prescribes an exposure period of an image pick up device;

an image pick up device control part for controlling an operation

of said image pick up device by synchronizing to the exposure period timing signal;

a timing part for measuring an elapsed time from the exposure period timing signal; and

5 an image pick up device control part for controlling said image pick up device control part and said exposure period setup part,

wherein said timing part measures an elapsed time from an exposure period timing signal right before an input requesting an exposure setup event to the input requesting the exposure setup event,  
10 and said imaging apparatus control part conducts the setup for the exposure to said image pick up device control part after a predetermined time is passed from said exposure period timing signal when the elapsed time measured by the timing part is equal or less than said predetermined time.

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17. The imaging apparatus according to Claim 16, wherein said predetermined time is a control value setup prohibition period for prohibiting the setup for the exposure to said image pick up device control part.

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18. An imaging apparatus comprising:

an exposure period setup part for generating a timing signal which prescribes an exposure period of an image pick up device;

an image pick up device control part for controlling an operation  
25 of said image pick up device by synchronizing to the exposure period timing signal;

a timing part for measuring an elapsed time from the exposure



period timing signal; and

an imaging apparatus control part for controlling said image pick up device control part and said exposure period setup part,

wherein said timing part measures an elapsed time from an exposure period timing signal right before an input requesting an exposure setup event to the input requesting the exposure setup event, and said imaging apparatus control part immediately conducts the setup for the exposure to said image pick up device control part when a time from the input requesting the exposure setup event calculated by the measured elapsed time to a generation of a next exposure period timing signal is equal or greater than a first predetermined time and when the elapsed time measured by said timing part is equal or greater than a second predetermined time.

19. The imaging apparatus according to Claim 18, wherein said first predetermined time is a time required for conducting the setup for the exposure to said image pick up device control part, and said second predetermined time is a control value setup prohibition period for prohibiting the setup for the exposure to said image pick up device control part.

20. An imaging method comprising the steps of:

preparing an imaging apparatus including an exposure period setup part for generating a timing signal which prescribes an exposure period of an image pick up device, an image pick up device control part for controlling the image pick up device by synchronizing to the exposure period timing signal, a timing part for measuring an elapsed time from

the exposure period timing signal, and an imaging apparatus control part for controlling the image pick up control part and said exposure period setup part;

measuring an elapsed time from an exposure period timing signal  
5 right before an input requesting an exposure setup event to the input requesting the exposure setup event; and

judging whether or not a time from the input requesting the exposure setup event calculated by the measured elapsed time to a generation of a next exposure period timing signal is equal or less than a  
10 predetermined time,

when the time till the generation of the next exposure period timing signal is judged to be equal or less than the predetermined time, an setup for an exposure to said image pick up device control part is conducted after the next exposure period timing signal.

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21. The imaging method according to Claim 20, wherein said predetermined time is a time required for conducting the setup for the exposure to said image pick up device control part.

20 22. An imaging method comprising the steps of:

preparing an imaging apparatus including an exposure period setup part for generating a timing signal which prescribes an exposure period of an image pick up device, an image pick up device control part for controlling an operation of said image pick up device by  
25 synchronizing to the exposure period timing signal, a timing part for measuring an elapsed time from the exposure period timing signal, and an imaging apparatus control part for controlling said image pick up

device control part and said exposure period setup part;

measuring an elapsed time from an exposure period timing signal right before an input requesting an exposure setup event to the input requesting the exposure setup event; and

5 judging whether or not the measured elapsed time is equal or less than a predetermined time,

when the measured elapsed time is judged to be equal or less than the predetermined time, a setup for an exposure to said image pick up device control part being conducted after said predetermined time is  
10 passed from said exposure period timing single.

23. The imaging method according to Claim 22, wherein said predetermined time is a control value setup prohibition period for prohibiting the setup for the exposure to said image pick up device  
15 control part.

24. An imaging method comprising the steps of:

preparing an imaging apparatus including an exposure period setup part for generating a timing signal which prescribes an exposure  
20 period of an image pick up device, an image pick up device control part for controlling an operation of said image pick up device by synchronizing to the exposure period timing signal, a timing part for measuring an elapsed time from the exposure period timing signal, and an imaging apparatus control part for controlling said image pick up  
25 device control part and said exposure period setup part;

measuring an elapsed time from an exposure period timing signal right before an input requesting an exposure setup event to the input

requesting the exposure setup event;

calculating a time from the input requesting the exposure setup event calculated by the measured elapsed time to a generation of a next exposure period timing signal; and

5       judging whether or not the time till the generation of the next exposure period timing signal calculated by the measured elapsed time is equal or greater than a first predetermined time, and the time measured by said timing part is equal or greater than a second predetermined time,

10       when the time till the generation of the next exposure period timing signal is judged to be equal or greater than the first predetermined time, and when the measured said elapsed time is judged to be equal or greater than the second predetermined time, a setup for an exposure to said image pick up device control part being conducted  
15 immediately.

25.     The imaging method according to Claim 24, wherein said first predetermine time is a time required for conducting the setup for the exposure to said image pick up device control part, and said second  
20 predetermined time is a control value setup prohibition period for prohibiting the setup for the exposure to said image pick up device control part.